

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listing of claims in the application.

Listing of Claims:

1. (currently amended) A molecular recognition sensor system comprising:

a resistive sensor including a semiconductive polymer film which swells when exposed to an analyte and interferents;

a molecular imprinted resistive sensor including a semiconductive polymer film imprinted with the analyte to produce cavities therein, in which the film thereby swells when exposed to interferents but not analytes when said analytes are at a concentration less than or about equal to a concentration of the cavities; and

a circuit connected to the resistive sensor and the molecular imprinted resistive sensor for detecting a change in the resistance of the resistive sensor when exposed to the analyte and the interferents, the change in the resistance of the molecular imprinted resistive sensor when exposed to the analyte and interferents, and for subtracting the change in resistance of the molecular imprinted resistive sensor from the change in resistance of the resistive sensor to reduce the effect of any interferents on the change in resistance of the resistive sensor thereby determining the presence and concentration of the analyte.
2. (original) The sensor system of claim 1 further including a resistive sensor and molecular imprinted resistive sensor pair for each analyte of interest.

3. (original) The sensor system of claim 1 in which the polymer film of the resistive sensor includes carbon.
4. (original) The sensor system of claim 1 in which the polymer film of the molecular imprinted resistive sensor includes carbon.
5. (original) The sensor system of claim 1 in which the polymer film of the resistive sensor includes copper.
6. (original) The sensor system of claim 1 in which the polymer film of the molecular imprinted resistive sensor includes copper.
7. (original) The sensor system of claim 1 in which the circuit is connected to an analog to digital converter.
8. (original) The sensor system of claim 7 in which the analog to digital converter is interfaced with a computer having software to read resistance.

9. (currently amended) A method of determining the presence and concentration of an analyte, the method comprising:

forming a resistive sensor with a semiconductive polymer film which swells when exposed to the analyte and interferents;

imprinting a semiconductor polymer film with an analyte forming a molecular imprinted resistive sensor having cavities therein, in which the resistive sensor swells when exposed to interferents, but not to analytes when said analytes are at a concentration less than or about equal to a concentration of the cavities;

detecting a change in the resistance of the resistive sensor when exposed to the analyte and the interferents and the change in the resistance of the molecular imprinted resistive sensor when exposed to the analyte and interferents; and

subtracting the change in resistance of the molecular imprinted resistive sensor from the change in resistance of the resistive sensor to reduce the effect of any interferents on the change of resistance of the resistive sensor thereby determining the presence and concentration of the analyte.

10. (original) The method of claim 9 in which the polymer film of the resistive sensor includes carbon.

11. (original) The method of claim 9 in which the polymer film of the molecular imprinted resistive sensor includes carbon.

12. (original) The method of claim 9 in which the polymer film of the resistive sensor includes copper.

13. (original) The method of claim 9 in which the polymer film of the molecular imprinted resistive sensor includes copper.

14. (previously presented) A molecular recognition sensor system comprising:

- a resistive sensor including a semiconductive polymer film including copper which swells when exposed to an analyte and interferents;
- a molecular imprinted resistive sensor including a semiconductive polymer film imprinted with the analyte which thereby swells when exposed to interferents; and
- a circuit connected to the resistive sensor and the molecular imprinted resistive sensor for detecting a change in the resistance of the resistive sensor when exposed to the analyte and the interferents, the change in the resistance of the molecular imprinted resistive sensor when exposed to the analyte and interferents, and for subtracting the change in resistance of the molecular imprinted resistive sensor from the change in resistance of the resistive sensor to reduce the effect of any interferents on the change in resistance of the resistive sensor thereby determining the presence and concentration of the analyte.

15. (previously presented) The sensor system of claim 14 in which the polymer film of the molecular imprinted resistive sensor includes copper.

16. (previously presented) A method of determining the presence and concentration of an analyte, the method comprising:
- forming a resistive sensor with a semiconductive polymer film including copper which swells when exposed to the analyte and interferents;
 - imprinting a semiconductor polymer film with an analyte forming a molecular imprinted resistive sensor which swells when exposed to interferents;
 - detecting a change in the resistance of the resistive sensor when exposed to the analyte and the interferents and the change in the resistance of the molecular imprinted resistive sensor when exposed to the analyte and interferents; and
 - subtracting the change in resistance of the molecular imprinted resistive sensor from the change in resistance of the resistive sensor to reduce the effect of any interferents on the change of resistance of the resistive sensor thereby determining the presence and concentration of the analyte.
17. (previously presented) The method of claim 16 in which the polymer film of the molecular imprinted resistive sensor includes copper.